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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/512,087	04/07/2005	Kiyoaki Takiguchi	261189US6PCT	9110

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EXAMINER	
PARK, EDWARD	

ART UNIT	PAPER NUMBER
2624	

NOTIFICATION DATE	DELIVERY MODE
02/27/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/512,087	TAKIGUCHI, KIYOAKI	
	Examiner	Art Unit	
	EDWARD PARK	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *1/21/09*.

2a)☐ This action is FINAL. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *59-74* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *59-74* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/29/09*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/21/09 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 59, 65, 71 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The newly added limitations, "so that the light source unit and the detecting unit are not coaxial with on another", as seen in claims 59, 65, 71, are not supported within the originally filed specification/disclosure dated on 11/9/04. It appears that the applicant is attempting to overcome the prior art of record by utilizing the prior art of record to claim limitations that are negative in regards to the specification of the prior art. Examiner notes that limitations that are

negatively claimed must also be positively supported in a negative manner within the original disclosure. In this instance, the newly added limitations are not negatively supported within the disclosure and therefore are considered new matter.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 71-74 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. The Federal Circuit[1], relying upon Supreme Court precedent[2], has indicated that a statutory "process" under 35 U.S.C. 101 must (1) be tied to a particular machine or apparatus, or (2) transform a particular article to a different state or thing. This is referred to as the "machine or transformation test", whereby the recitation of a particular machine or transformation of an article must impose meaningful limits on the claim's scope to impart patent-eligibility (See *Benson*, 409 U.S. at 71-72), and the involvement of the machine or transformation in the claimed process must not merely be insignificant extra-solution activity (See *Flook*, 437 U.S. at 590"). While the instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform an article nor are positively tied to a particular machine that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. That is, the method includes steps of emitting, detecting, generating, etc. is of sufficient breadth

[1] *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

[2] *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

that it would be reasonably interpreted as a series of steps completely performed mentally, verbally, or without a machine. The cited claims do not positively recite any structure within the body of the claim which ties the claim to a statutory category. Furthermore, the examiner suggests that the structure needs to tie in the basic inventive concept of the application to a statutory category. Structure that ties insignificant pre or post solution activity to a statutory category is not sufficient in overcoming the 101 issue. Additionally, the limitations do not claim data that represents a physical object or substance, the data is not present and therefore can not be modified by the process in a meaningful or significant manner, and no meaningful and significant external, non-data depiction of a physical object or substance can be produced.

[1] *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

[2] *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 59-62, 64-68, 70-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miura et al (US 2002/0028004 A1) in view of Kono et al (US 6,813,010 B2).

Regarding claim 59, Miura teaches a biometric pattern detecting device comprising:

a light source unit configured to emit a light to be reflected or scattered in a part of body (Miura: figure 5, numeral 2);

and a detecting unit configured to detect an image of the light reflected or scattered in the part of body by the light source unit (Miura: figure 5, numeral 4) and generate a biometric pattern using the detected image (Miura: figure 9), wherein the light source unit is set in a horizontal direction or a horizontally slanted direction with respect to the part of body (Miura: figure 5, numeral 2) and the detecting unit is set in a vertical direction or a vertical slanted direction with respect to the part of body (Miura: figure 5, numeral 4). Miura does not disclose light source unit and the detecting unit are not coaxial with one another.

Kono, in the same field of endeavor, teaches light source unit and the detecting unit are not coaxial with one another (see fig. 5, numerals 303-1, 303-2, 303-4, 303-5, col. 8, lines 21-36; plurality of CCD cameras are used; that is, a light source 301, a finger 302, and CCD cameras (303-1-303-5) are arranged as shown. In this embodiment, a plurality of finger vein patterns are captured from a plurality of directions using a plurality of CCD cameras).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Miura reference to utilize a non-coaxial arrangement as suggested by Kono, to increase the performance of identification and reduce the image load by utilizing the pattern most similar to the registered vein pattern as the selected pattern for authentication (see col. 8, lines 17-53).

Regarding claim 60, Miura teaches detecting unit detects the image of the light reflected or scattered in the body on the different position from the position of the light emitted by light source unit (Miura: figure 5).

Regarding claim 61, Miura teaches wherein the part of body is a finger or a hand (Miura: figure 5, numeral 20).

Regarding claim 62, Miura teaches wherein the biometric pattern is a pattern of blood vessels (Miura: paragraph [0033]).

Regarding claim 64, Miura teaches a guide unit set between the detecting unit and the part of body (Miura: figure 5, numeral 1).

Regarding claim 65, Miura teaches a personal authentication device comprising:
a light source unit configured to emit a light to be reflected or scattered in a part of body (Miura: figure 5, numeral 2);
a detecting unit configured to detect an image of the light reflected or scattered in the part of body by the light source unit (Miura: figure 5, numeral 4) and for generating a biometric pattern using the detected image (Miura: figure 9);
a storage unit configured to store a biometric pattern (Miura: paragraph [0008]); and
an authentication unit configured to perform an authentication process by comparing the biometric pattern generated by the detecting unit with the biometric pattern stored by the storage unit (Miura: figure 9), wherein the light source unit is set in a horizontal direction or a horizontally slanted direction with respect to the part of body (Miura: figure 5, numeral 2) and the detecting unit is set in a vertical direction or a vertical slanted direction with respect to the part of body (Miura: figure 5, numeral 4). Miura does not disclose light source unit and the detecting unit are not coaxial with one another.

Kono, in the same field of endeavor, teaches light source unit and the detecting unit are not coaxial with one another (see fig. 5, numerals 303-1, 303-2, 303-4, 303-5, col. 8, lines 21-36;

plurality of CCD cameras are used; that is, a light source 301, a finger 302, and CCD cameras (303-1-303-5) are arranged as shown. In this embodiment, a plurality of finger vein patterns are captured from a plurality of directions using a plurality of CCD cameras).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Miura reference to utilize a non-coaxial arrangement as suggested by Kono, to increase the performance of identification and reduce the image load by utilizing the pattern most similar to the registered vein pattern as the selected pattern for authentication (see col. 8, lines 17-53).

Regarding claim 66, Miura teaches detecting unit detects the image of the light reflected or scattered in the body on the different position from the position of the light emitted by light source unit (Miura: figure 5).

Regarding claim 67, Miura teaches wherein the part of body is a finger or a hand (Miura: figure 5, numeral 20).

Regarding claim 68, Miura teaches wherein the biometric pattern is a pattern of blood vessels (Miura: paragraph [0033]).

Regarding claim 70, Miura teaches a guide unit set between the detecting unit and the part of body (Miura: figure 5, numeral 1).

Regarding claim 71, Miura teaches a method of performing personal authentication, comprising:

emitting a light to be reflected or scattered in a part of body (Miura: figure 5, numeral 2);

detecting an image of the light reflected or scattered in the part of body (Miura: figure 5, numeral 4);

generating a biometric pattern using the detected image (Miura: figure 9);

performing an authentication process by comparing the generated biometric pattern with a stored biometric pattern (Miura: figure 9),

wherein the emitted light is emitted from a horizontal direction or a horizontally slanted direction with respect to the part of body (Miura: figure 5, numeral 2) and the image of the light reflected is detected in a vertical direction or a vertical slanted direction with respect to the part of body (Miura: figure 5, numeral 4). Miura does not disclose emitted light and the detected image are not coaxial with one another.

Kono, in the same field of endeavor, teaches emitted light and the detected image are not coaxial with one another (see fig. 5, numerals 303-1, 303-2, 303-4, 303-5, col. 8, lines 21-36; plurality of CCD cameras are used; that is, a light source 301, a finger 302, and CCD cameras (303-1-303-5) are arranged as shown. In this embodiment, a plurality of finger vein patterns are captured from a plurality of directions using a plurality of CCD cameras).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Miura reference to utilize a non-coaxial arrangement as suggested by Kono, to increase the performance of identification and reduce the image load by utilizing the pattern most similar to the registered vein pattern as the selected pattern for authentication (see col. 8, lines 17-53).

Regarding claim 72, Miura teaches wherein the part of body is a finger or a hand (Miura: figure 5, numeral 20).

Regarding claim 73, Miura teaches wherein the biometric pattern is a pattern of blood vessels (Miura: paragraph [0033]).

7. Claims 63, 69, 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miura et al (US 2002/0028004 A1) with Kono et al (US 6,813,010 B2), and further in view of Murakami et al (US 6,483,929 B1).

Regarding claim 63, Miura with Kono discloses all elements as mentioned above in claim 59. Miura with Kono does not teach a near-infrared light.

Murakami teaches a near-infrared light (Murakami: col. 6, lines 42-52)

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Miura with Kono to utilize a near-infrared light as suggested by Murakami, to "penetrate the skin of the finger and absorb or reflect off the user's skin and subskin tissues an, specifically, arterial tissues ... [in order for] the reflected light [to be received by the system and converted into an electronic signal, which can then be stored in some electronic format" (Murakami: col. 6, lines 42-52).

Regarding claim 69, Miura with Kono discloses all elements as mentioned above in claim 65. Miura with Kono does not teach a near-infrared light.

Murakami teaches a near-infrared light (Murakami: col. 6, lines 42-52)

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Miura with Kono to utilize a near-infrared light as suggested by Murakami, to "penetrate the skin of the finger and absorb or reflect off the user's skin and subskin tissues an, specifically, arterial tissues ... [in order for] the reflected light [to be received by the system and converted into an electronic signal, which can then be stored in some electronic format" (Murakami: col. 6, lines 42-52).

Regarding claim 74, Miura with Kono discloses all elements as mentioned above in claim 71. Miura with Kono does not teach a near-infrared light.

Murakami teaches a near-infrared light (Murakami: col. 6, lines 42-52)

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Miura with Kono to utilize a near-infrared light as suggested by Murakami, to "penetrate the skin of the finger and absorb or reflect off the user's skin and subskin tissues an, specifically, arterial tissues ... [in order for] the reflected light [to be received by the system and converted into an electronic signal, which can then be stored in some electronic format" (Murakami: col. 6, lines 42-52).

Response to Arguments

8. Applicant's arguments with respect to claims 59, 65, 71 have been considered but are moot in view of the new ground(s) of rejection. Applicant argues that newly added limitation, light source unit and the detecting unit are not coaxial with one another, is not disclosed by Miura (see pg. 6, fourth paragraph – pg. 8, first paragraph). This argument is not considered persuasive since claims 59, 65, 71 are rejected by a new ground(s) of rejection under Miura in view of Kono necessitated by applicant's amendment of the respective claims and therefore the arguments are considered moot.

Applicant argues that there is no scattering or reflection due to Miura's camera and light source arrangement existing in an opposite, coaxial form in reference to each other (see pg. 7, second paragraph). This argument is not considered persuasive since the Miura reference does not state that due to the coaxial arrangement, the sensor/camera is able to pick up the image of

the vein pattern within the finger. Rather, the Miura reference coincidentally happens to have the arrangement of cameras and light sources in a coaxial format. The coaxial format does not dictate whether or not an image can be captured by the sensor. To expand on this concept, the light emitted by the light source is scattered and reflected as it passes through the finger and eventually the scattered and reflected light will produce an image of the vein pattern by capturing the pattern through the camera/sensor. If the emitted light was not scattered or reflected as it passed through the finger, then the camera would capture an image of the light source itself. For example, even air would scatter and reflect light as it passes through the medium.

Applicant argues that the Murakami reference does not correct the deficiencies of Miura (see pg. 8, third paragraph). This argument is not considered persuasive since claims 59, 65, 71 are rejected by a new ground(s) of rejection under Miura in view of Kono necessitated by applicant's amendment.

Regarding claims 60-64, 66-70, 73, 74, applicant argues that the claims are allowable due to the same reasons as stated in the independent claims 59, 65, 71, respectively (see pg. 8, fourth paragraph). This argument is not considered persuasive since claims 59, 65, 71 stand rejected by a new ground(s) of rejection under Miura in view of Kono necessitated by applicant's amendment.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDWARD PARK whose telephone number is (571)270-1576. The examiner can normally be reached on M-F 10:30 - 20:00, (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on (571) 272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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